

Remarks:

1. Applicant thanks Examiner for his careful review of the present application and particularly appreciates allowance of claim 1 and the conditional allowance of claims 4 – 13, 21, and 24 – 27.
2. **Amendments to the Specification:** Paragraphs [0045] – [0047] and [0049] – [0052] as found in the Specification as filed with the Preliminary Amendment were amended. In paragraph [0045] a minor typing error was corrected. In paragraphs [0046] and [0047], the designations 9A and 9B were amended to “6A” and “6B.” In paragraphs [0049], language was added describing the seals (5) shown on the piston 4 in FIGS. 6 and 9. In paragraph [0050], reference designations were added to more clearly distinguish different embodiments of valves. In paragraph [0051], the last sentence was deleted as it did not particularly pertain to FIG. 6. The features described in this sentence are shown either in FIG. 5A or FIG. 9. In paragraph [0052], the description was broadened to include features shown in FIG. 9.
3. None of the amendments to the Specification introduce new subject, but are merely clarifications of subject matter shown in the figures as originally filed and, therefore, Applicant respectfully requests approval and entry of the amended paragraphs.
4. **Amendments to the Claims:** Claims 1, 2, 4 – 8, 10, 12, 13, 22, 23, and 24 were amended; claims 3 and 9 cancelled; and claim 29 added. In claim 1, reference to the material for the engine and pistons was deleted. Language was added to claim 2 reciting a plurality of pistons fixedly attached to either the outer or the inner engine ring, and wherein the outer and inner engine rings rotate counter to each other when the pistons are forced by combustion to move in the engine ring, and further reciting that the gas flow valve is to enable gas flow into or out of the engine ring through the piston. The language pertaining to the gas flow valve is merely to link the gas flow valve with the other elements of the engine. The language describing the fixed attachment of the pistons to the rings and the counterrotation of both the outer and inner engine rings is a

further clarification of the structural relationship of the pistons to the inner and outer engine rings. This language is supported by a description in paragraph [0049] of the Specification as originally filed (paragraph [0048] of the Specification filed with the Preliminary Amendment) and is shown in FIGS. 1, 4, and 9. Claims 4 – 7 were amended commensurate with the amendments to claim 2. The word “slidably” was also deleted from claim 4 as redundant in view of amended claim 1. Claim 8 was amended merely for style and brevity and claim 10 amended to eliminate redundancy. The dependency of claim 12 was amended; claim 13 was amended to introduce the “piston face” that had been originally recited in cancelled claim 3. Claim 22 was amended to recite an engine ring that is mounted on the shaft, which is inserted through an opening in the torus; and claim 23 amended to recite manifold mounted on the shaft. A spelling error was corrected in claim 24 and claim 24 was added to recite a slot valve that was disclosed in the Specification and Drawings as originally filed (in paragraph [0051] or originally filed Specification and FIG. 5B).

5. Applicant respectfully submits that the claim amendments do not introduce new subject matter and respectfully requests approval and entry of claims 1, 2, 4 – 8, and 10 – 29 as currently presented.

6. **Amendments to the Drawings:** Examiner objected to the drawings for failing to call out certain features on the drawings. Reference designations have been added to FIGS. 5A, 5B, and 9 to properly call out all features described in the Specification. Reference designations were also corrected on FIGS. 2C, 8, and 9. No new features were added to any of the figures and, thus, no new subject matter introduced with these amendments. Accordingly, Applicant requests that the amended drawings be approved and entered.

7. **Rejection of Claims 22 and 23 under 35 U.S.C. § 112:** Applicant submits that the amendments to claims 22 and 23 remove this enablement rejection. FIG. 6 and 9 show the engine mounted on the shaft. Applicant requests that examiner withdraw this rejection of claims 22 and 23 and allow these claims.

8. **Rejection of Claims 2 – 3, 18 – 20, and 28 under 35 U.S.C. § 103(a):** Examiner rejected these claims as being unpatentable over Noble in view of Master, specifically asserting that the Noble reference discloses an engine ring constructed of two concentric rings and that Master discloses the use of a gas-flow valve in combustion engines. The Noble engine comprises a stationary outer wall or shell (23) and a rotating inner wall (24). The outer wall has two halves that are clamped together as shown in Noble FIGS. 2 and 3, and form the stationary outer shell of the engine. Furthermore, the intake and exhaust ports are provided at two opposing locations on the outer wall. The pairs of pistons (39, 40) are attached to piston-carrying rings (35, 36) that are coupled by crank arms to gears in the gear casing (21). Combustion forces the pistons to move, imparting motion to gears that transmit the motion to an external gear that is carried by the inner wall. This forces rotation of the inner wall and, consequently, of the center shaft (22). The pistons travel in one direction around the engine ring. The pistons are not attached directly to the outer wall or to the inner wall of the engine ring, but rather, to the piston bearing rings (35, 36) that line the inner wall (23).

9. Amended claim 2 of the present application recites an engine with an inner and an outer engine ring, wherein both the inner and outer engine rings rotate counter to each other. This is not disclosed, taught, suggested or rendered obvious by Noble and Masters, either alone or in combination. Applicant has successfully traversed the obviousness rejection based on the Nobel and Master disclosures and respectfully submits that the claims as currently presented contain allowable subject matter. Applicant therefore requests that Examiner withdraw his rejection of claim 2 and its dependent claims under 35 U.S.C. § 103(a).

10. With regard to claims 18 – 20, Examiner asserts that Noble discloses a self-sealing ring seal (37). Seal 37 is not a self-sealing seal as defined in the Specification of the present application as filed. The self-sealing seal as shown in FIGS. 2A – 2C is one in which the seal properties of the seal are increased under the influence of

combustion forces, as a result of the overlapping lip design of the seal. The seal disclosed in FIG. 5 of Noble is not self-sealing and would not withstand the forces from combustion without the massive structure that is bolted together, as shown in Nobel FIGS. 1, 3, and 4. Applicant respectfully submits that Nobel does not teach or disclose a self-sealing seal as claimed in the present application and, therefore, requests that Examiner withdraw his rejection of these claims under 35 U.S.C. § 103(a).

11. With regard to claim 28, Noble discloses fan blades around the shaft for air-cooling the shaft and lubrication oil holes (49) and drain cocks (50) for oil-cooling of the engine. Claim 28 recites an air-cooling system for the engine, exclusive of an oil-lubrication system. Applicant respectfully submits that Noble, in fact, teaches away from an air-cooling system for the engine by teaching oil lubrication for the engine. Accordingly, Applicant requests that Examiner withdraw his rejection under 35 U.S.C. § 103(a) of claim 28.

12. **Rejection of claims 14 – 17 under 35 U.S.C. § 103(a):** Examiner rejected these claims as being unpatentable over Noble, in view of Master, and in further view of IC Engine Concepts or Parker. Claims 14 – 17 depend from claim 2, which contains allowable subject matter. Accordingly, claims 14 – 17 also contain the allowable subject matter of claim 2. Applicant therefore requests that Examiner withdraw the rejection under 35 U.S.C. § 103(a) of claims 14 – 17.

13. **Conclusion:** Applicant has responded to each and every objection and rejection raised by Examiner and now submits that claims 1, 2, 4 – 8, and 10 – 29 as currently presented are in condition for allowance. Applicant respectfully requests that examiner withdraw all rejections and allow these claims.

14. The total number of claims presented does not exceed the previous number of claims as originally filed and, thus, no additional fees are due for the new claim.

15. This petition is being filed with the fourth month of the statutory period and a petition for time-extension and payment of the appropriate fee are enclosed with this filing.

Respectfully submitted,



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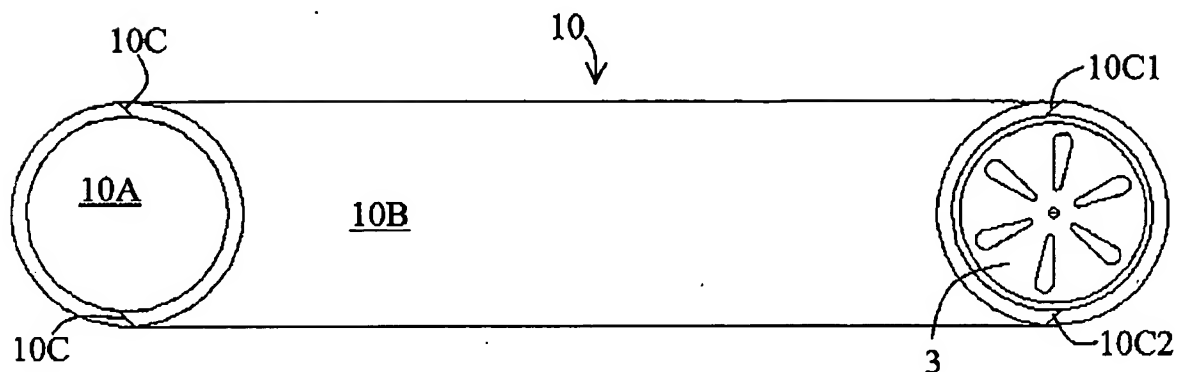
10/624,310; 07/22/2003
ANNOTATED MARKED UP DRAWINGS

FIG. 2A

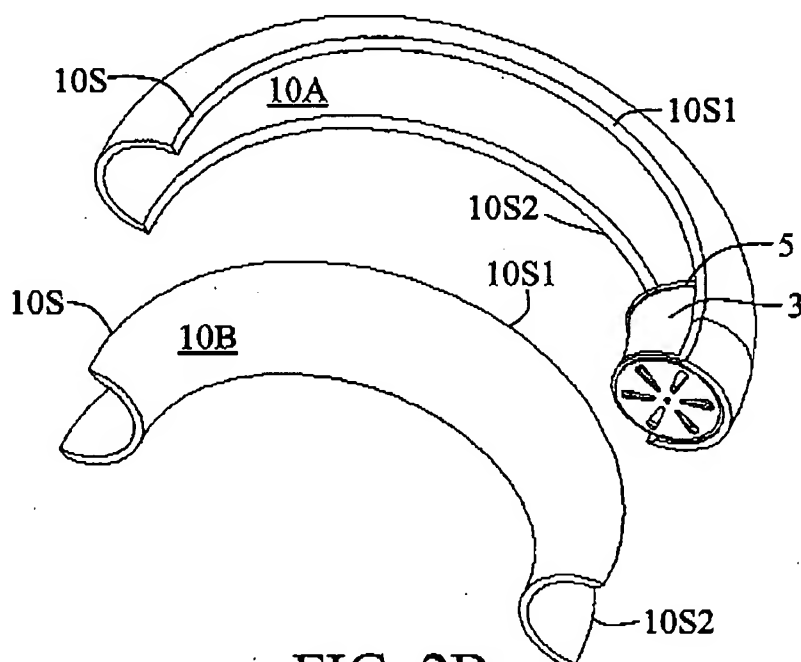


FIG. 2B

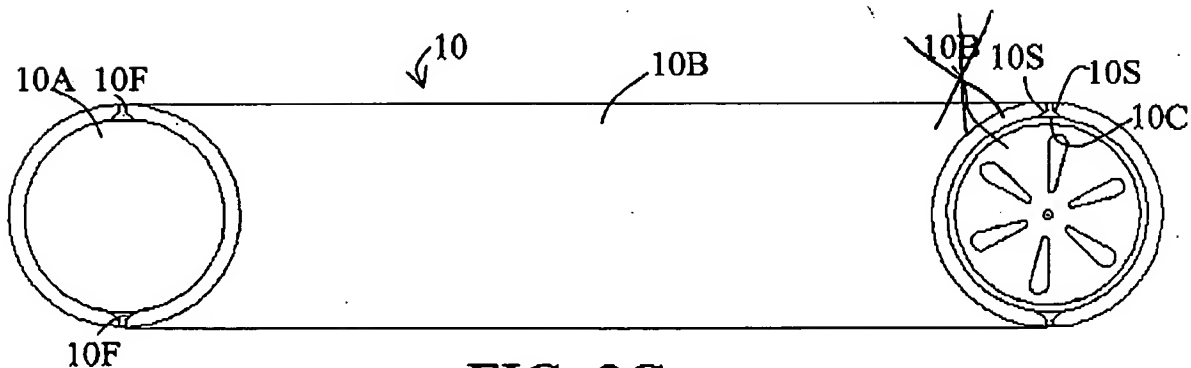


FIG. 2C

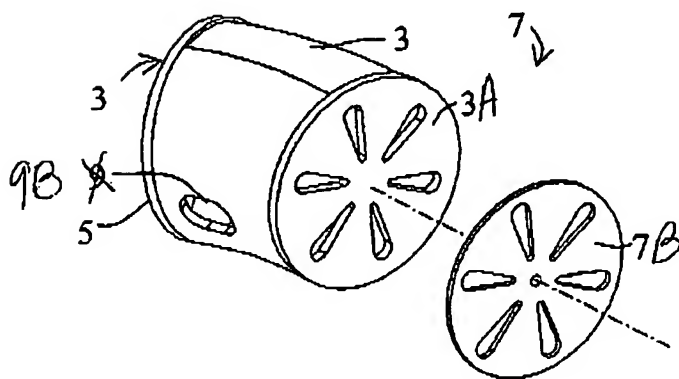
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FIG. 5A

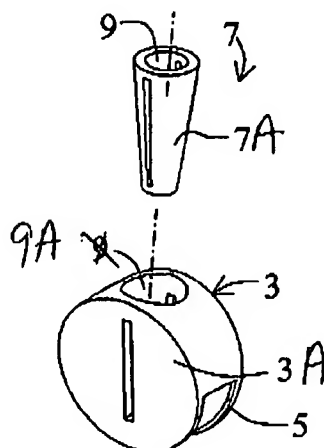


FIG. 5B

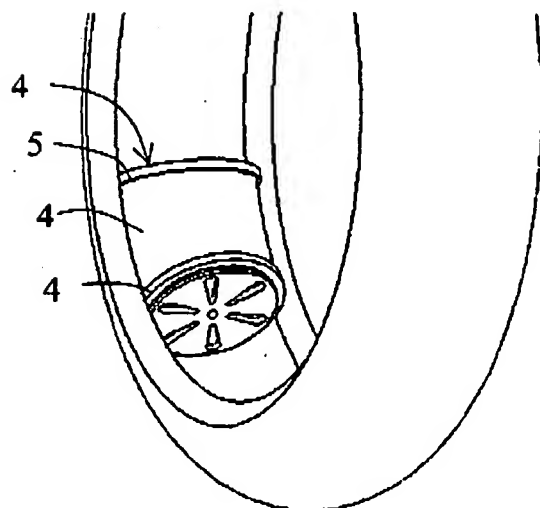


FIG. 6

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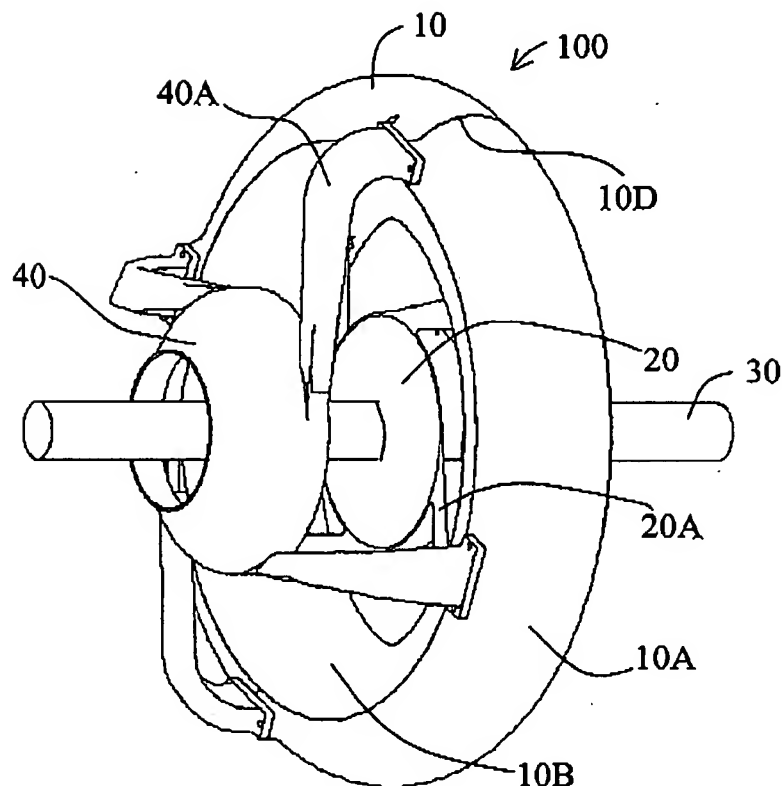


FIG. 7

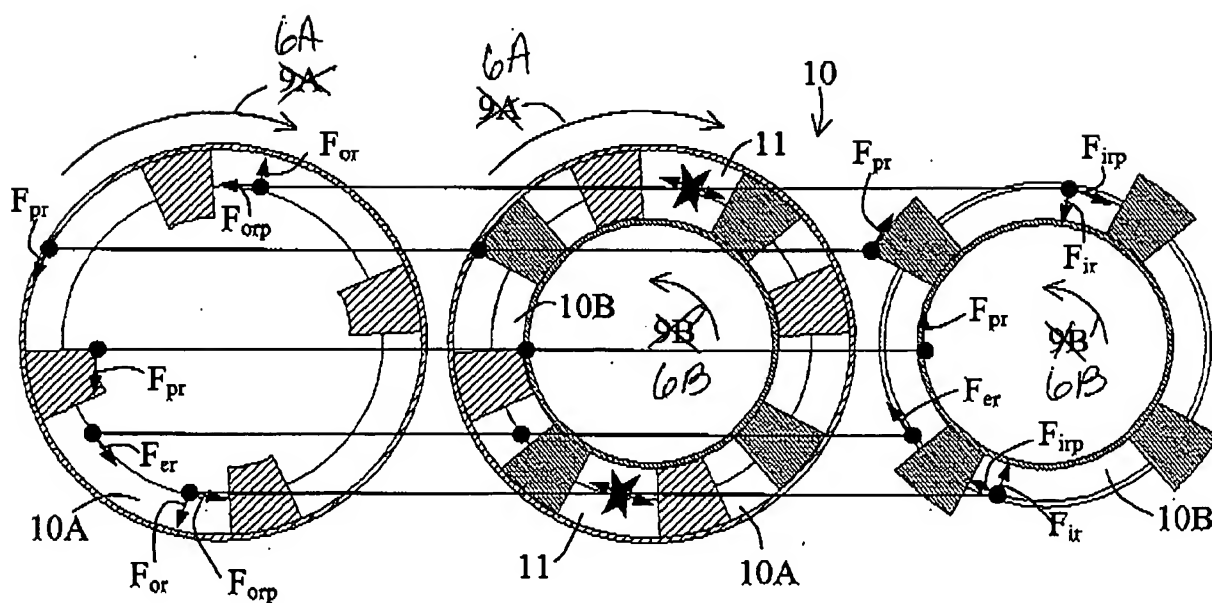


FIG. 8

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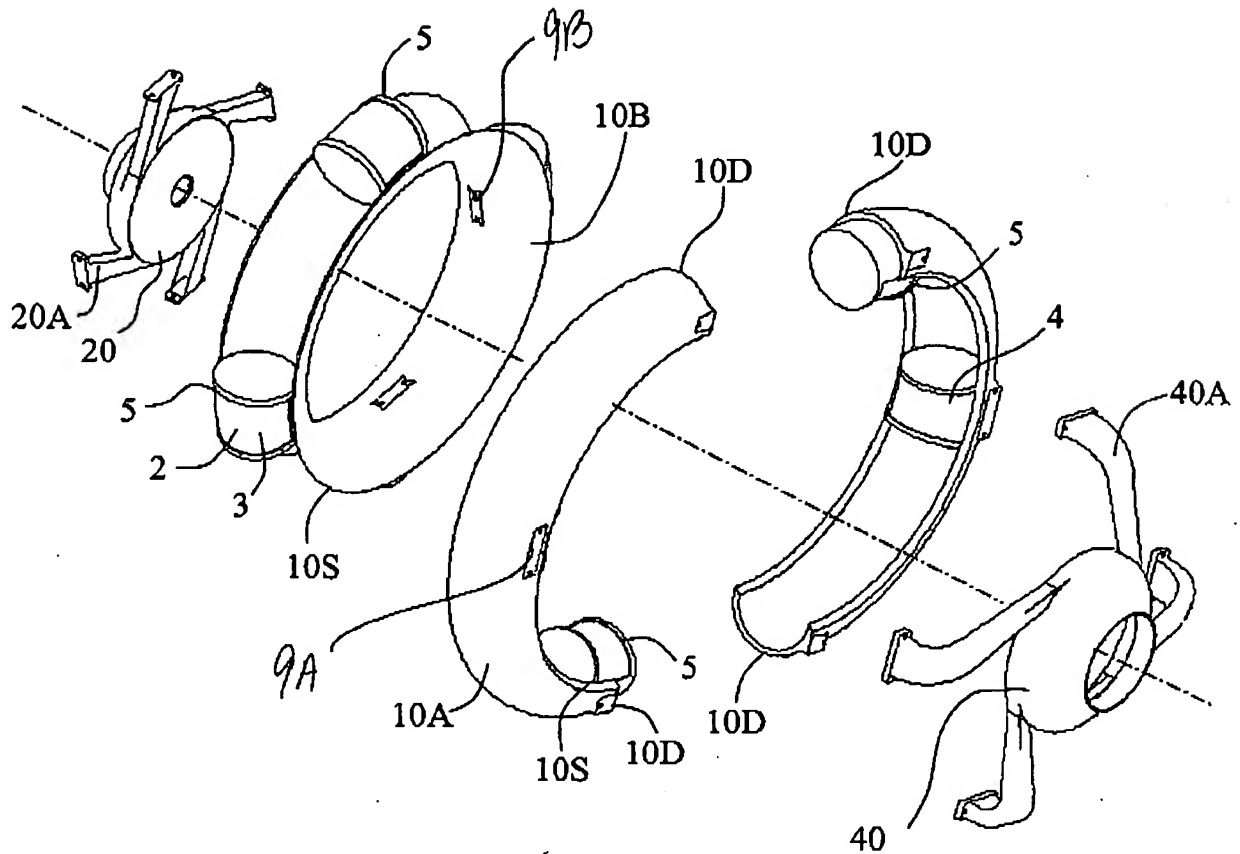


FIG. 9

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